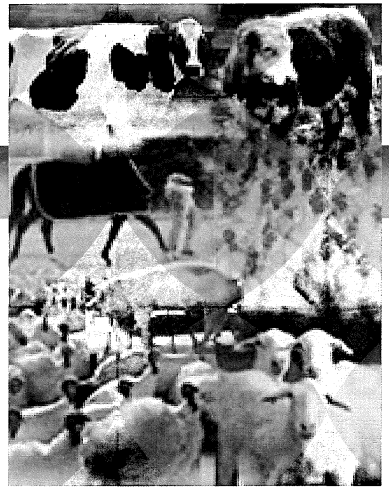


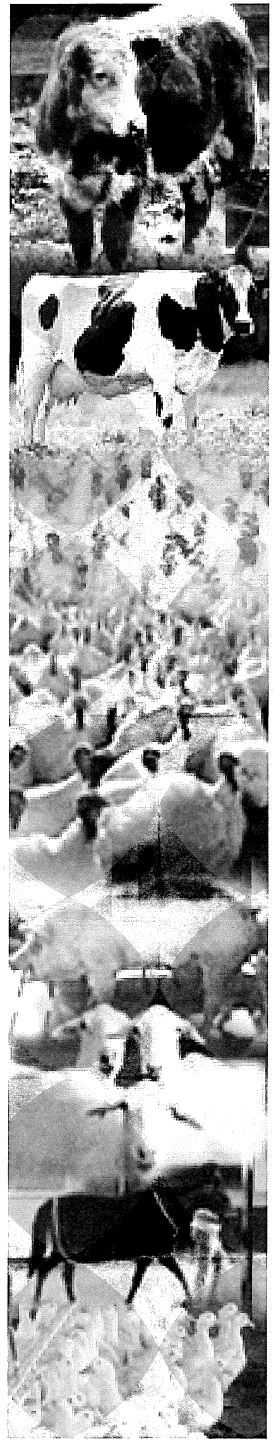
Requirements for CAFOs to Seek NPDES Permit Coverage

March 22, 2011

Session Goals

1. Understand which CAFOs are required to seek permit coverage

2. Provide regulatory basis for assessing whether a CAFO discharges



Clean Water Act

- The Act prohibits discharges of pollutants[1] from point sources to waters of the United States, unless the discharge is in compliance with an NPDES permit.
- Concentrated animal feeding operations (CAFOs) are point sources under the Act. Agricultural storm water is not.
- EPA regulations apply to both CAFO production and land application areas.

[1]dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, hear, wrecked, or discarded equipments, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water 33 U.S.C. 1362(6)

What is a Large CAFO?

Animal Type	Threshold
Mature Dairy Cows	700
Veal Calves	1,000
Beef Cattle or Heifers	1,000
Swine	2,500 (55 lbs or more) 10,000 (under 55 lbs)
Horses	500
Sheep or Lambs	10,000
Turkeys	55,000
Chickens, liquid manure	30,000
Chickens, other than liquid manure	125,000 (not laying hens) 82,000 (laying hens)
Ducks	5,000 (liquid manure) 30,000 (other than liquid manure)

What is a Medium CAFO?

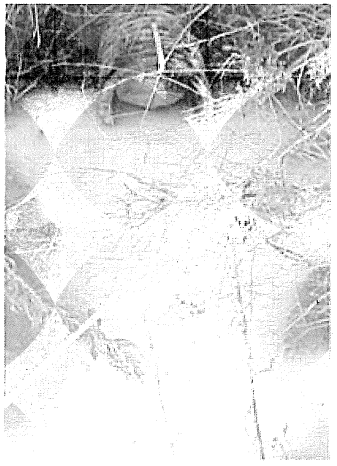
- Specified number of animals plus a discharge from the production area by one of two methods:
  - Directly to waters which pass through the production area or
  - Via a ditch, flushing system, or other similar man-made device.

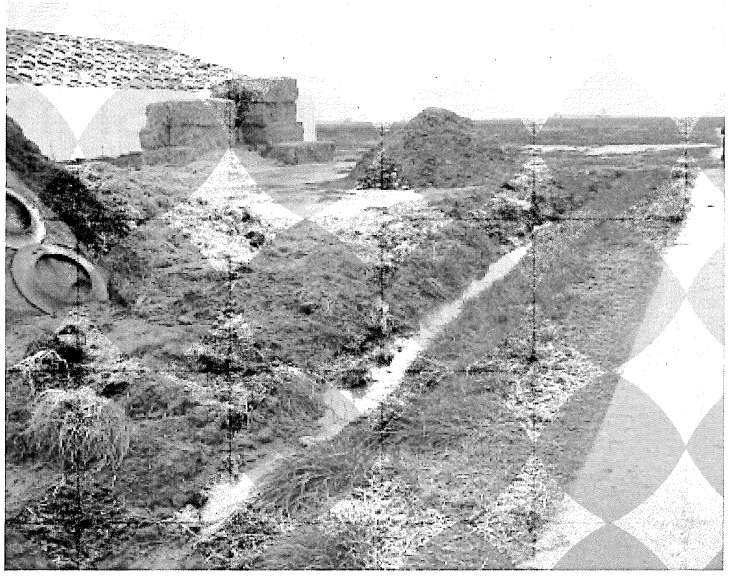
What is a Medium CAFO?

Animal Type	Range
Mature Dairy Cows	200 - 699
Veal Calves	300 - 999
Beef Cattle or Heifers	300 - 999
Swine	750 - 2,499 (55 lbs or more) 3,000 - 9,999 (under 55 lbs)
Horses	150 - 499
Sheep or Lambs	3,000 - 9,999
Turkeys	16,500 - 54,999
Chickens, liquid manure	9,000 - 29,999
Chickens, other than liquid manure	37,500 -124,999 (not laying hens) 25,000 - 81,999 (laying hens)
Ducks	1,500 – 4,999 (liquid manure) 10,000 – 29,999 (other than liquid manure)

What is a device similar to a ditch?

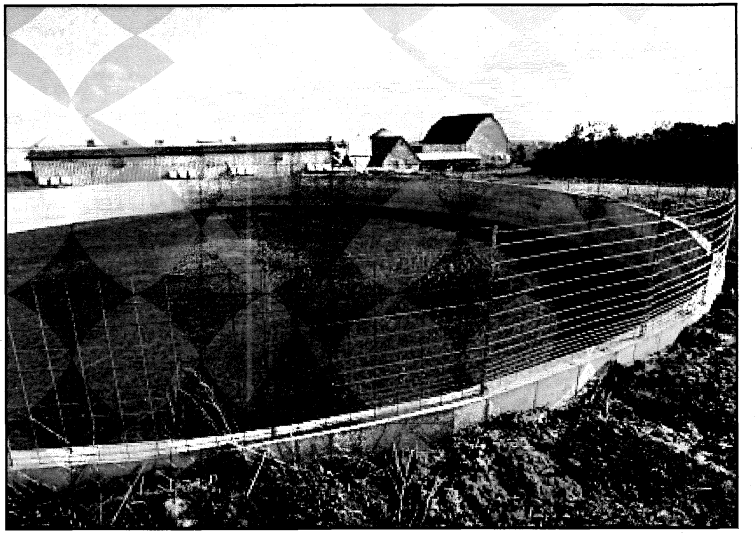
- Pipe or man-made channel through which manure, litter, or process wastewater pollutants are transported.

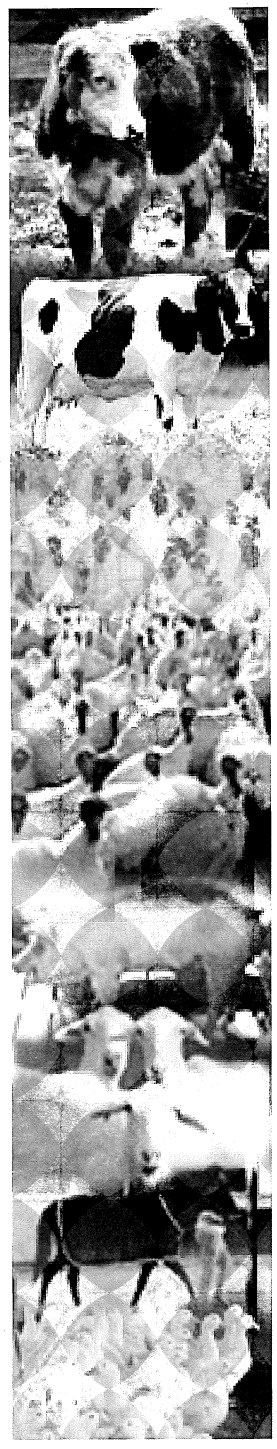




What is the production area?

- Animal confinement area
- Manure and waste storage area
- Raw material storage area
- Egg washing area and
- Mortality management area



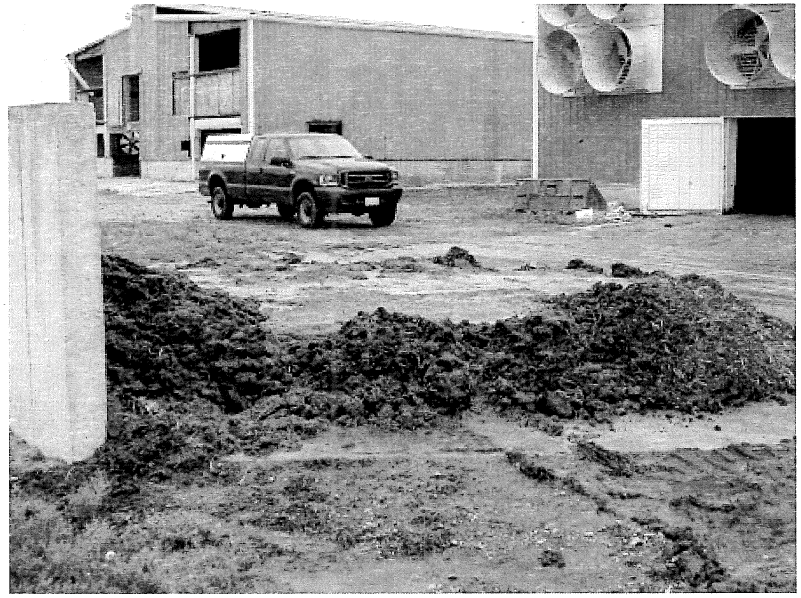


What is the confinement area?

- Lots
- Yards
- Barns
- Houses
- Stables
- Milking centers
- Walkways

What is the manure and waste storage area?

- Lagoons
- Ponds
- Pits
- Tanks
- Basins
- Sheds
- Stockpiles
- Compost piles
- Mortalities



What is the raw material storage area

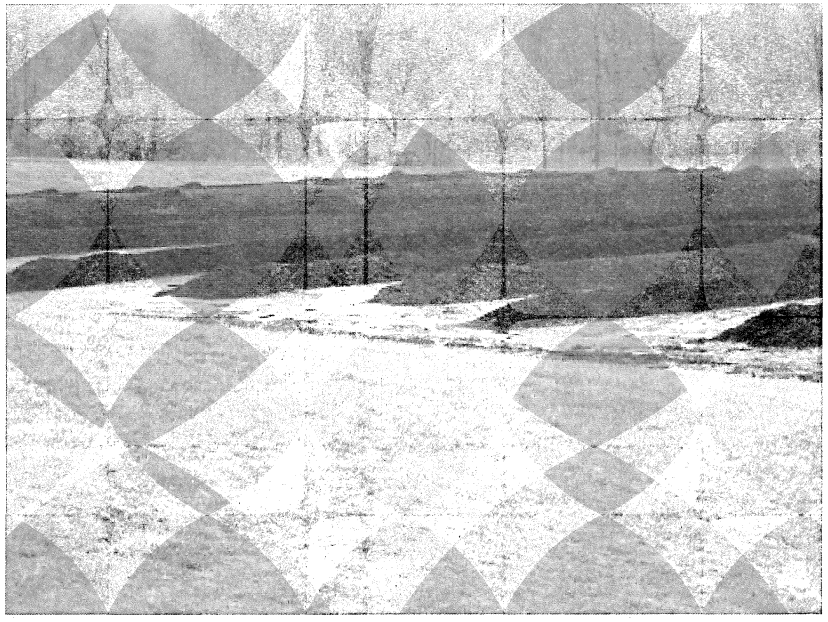
- Feed silos, bunkers, bins, and bags
- Waste feed
- Bedding and litter (fresh)

What is manure, litter, and process wastewater?

- Urine and manure
- Bedding and litter (used)
- Compost
- Leachate
- Water used at the AFO
  - Watering
  - Washing
  - Flushing
  - Animal cooling
  - Swimming
  - Dust control

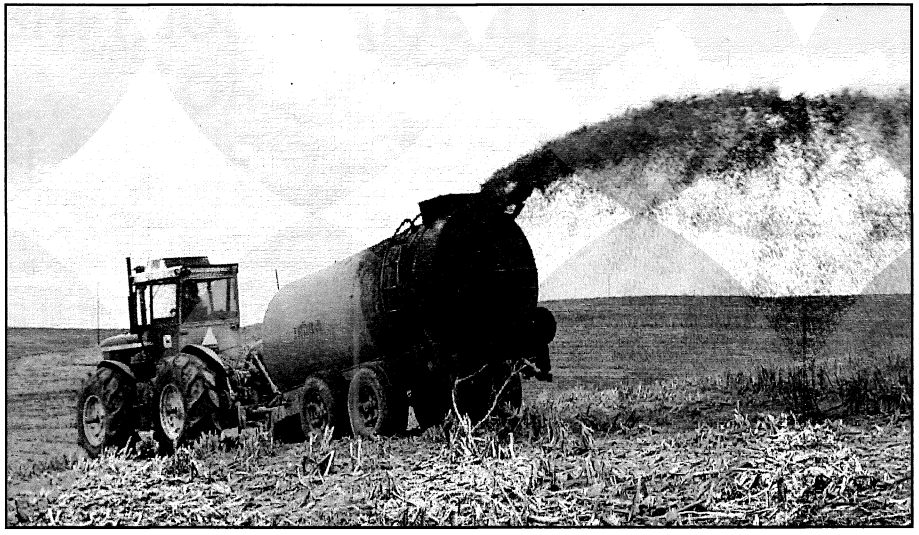
What is manure, litter, and process wastewater?

- Water (e.g., precipitation) that comes into contact with or is a constituent of:
  - Urine or manure
  - Litter
  - Compost
  - Bedding (fresh and used)
  - Feed (fresh and spoiled)
  - Mortalities



What is the land application area?

- Land to which CAFO owner or operator applies manure, litter, or process wastewater.
  - Owned,
  - Rented,
  - Leased, or
  - Access agreement



Discharge of a Pollutant

- Defined in the Clean Water Act as "any addition of any pollutant…from a point source to waters of the U.S."
- Any addition of any pollutants from a CAFO production area.
- Any addition of any pollutants from a CAFO land application area, except pollutants added in agricultural storm water.

Agricultural Storm Water
§ 122.23(e)

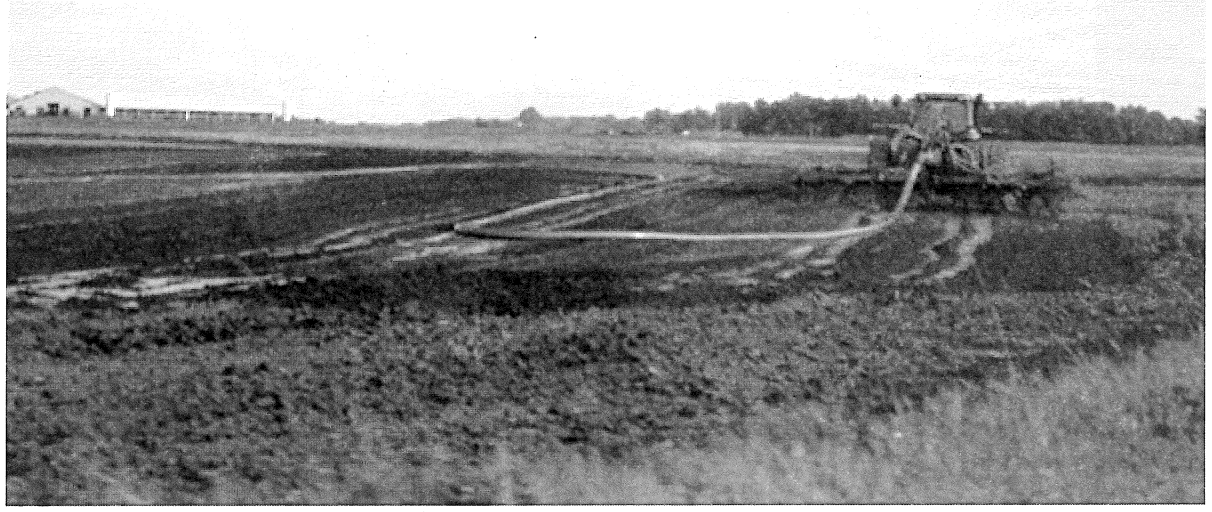
- Precipitation-related discharge from land under the control of the CAFO where manure, litter, or wastewater has been applied in accordance with practices that ensure appropriate utilization of nutrients, as specified in § 122.42(e)(1)(iv) – (ix).
- Must maintain records (planning + implementation) to document implementation of practices. No records = no ag storm water exclusion.

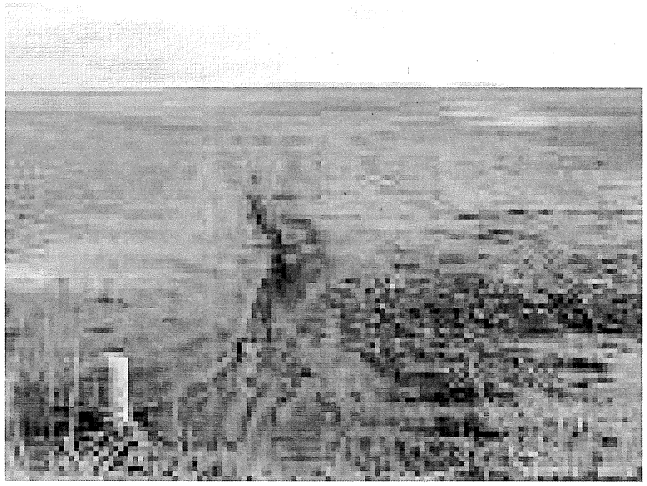
Agricultural Storm Water

- Discharges from production areas never qualify as agricultural storm water.
  - Production areas include manure or litter that is staged or stockpiled within crop, forage, or other land.

Agricultural Storm Water

- Discharges from land application areas are not agricultural storm water if they are unrelated to precipitation.
  - Irrigation to waters of the U.S. or a conduit to waters of the U.S.
  - Runoff due to hydraulic overload of soil.
  - Runoff from soil that is frozen but not covered with snow.
  - Preferential flow to subsurface drains (i.e., tile line).





Agricultural Storm Water

- § 122.42(e)(1)(vi) – (ix) practices:
  - Conservation practices, including as appropriate buffers or equiv. practices, to control runoff of pollutants to waters of the U.S.
  - Appropriate testing of manure, litter, process wastewater, and soil.
  - Practices that ensure appropriate agricultural utilization of nutrients.

Agricultural Storm Water

73 Fed. Reg. 70435-70436, November 20, 2008

- Practices satisfy § 122.42(e)(1)(viii) when they are in accordance with the technical standards for nutrient management required under § 123.36.
- Technical standards:
  - Provide an objective basis to establish land application practices.
  - Reflect NPDES agency judgment as to meaning of "appropriate" practices.

Agricultural Storm Water

73 Fed. Reg. 70435-70436, November 20, 2008

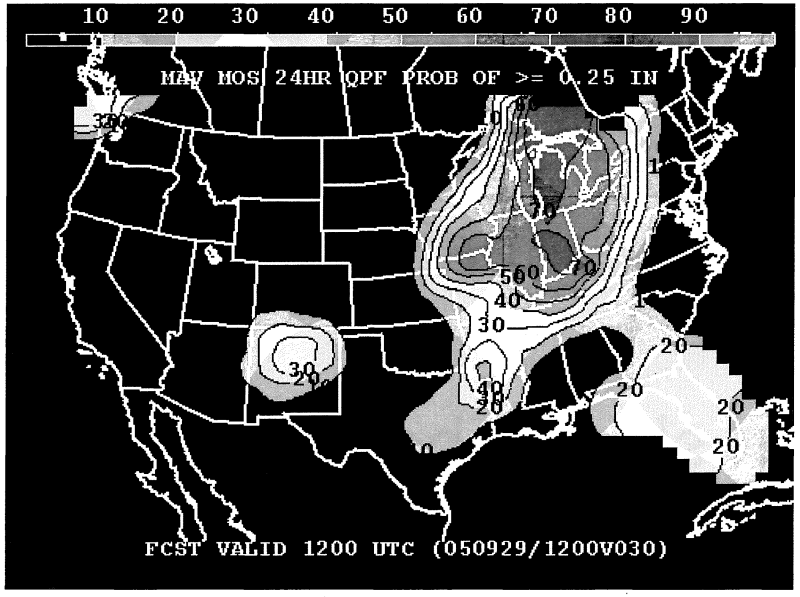
- If practices are based on alternative standards, CAFO is responsible to demonstrate that such alternatives are appropriate.
- U.S. EPA will evaluate practices against technical standards, and expects States to do the same.

Agricultural Storm Water

- Rate of application:
  - Up to nitrogen agronomic rate when risk of phosphorus movement to surface water is low or moderate.
  - One-year P agronomic rate when risk of P movement is high.
  - No application when risk of P movement is very high.

Agricultural Storm Water

- Timing of surface application:
  - Forecasted rain
  - Snow



2008 Regulatory Requirements to Seek NPDES Permit Coverage

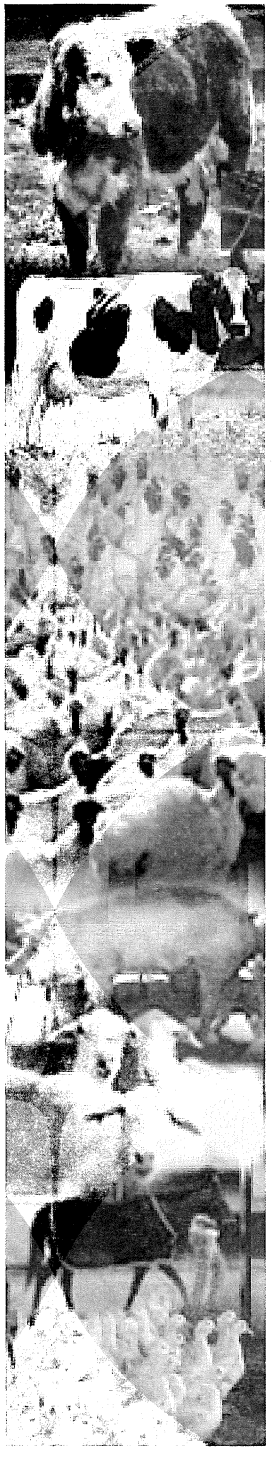
- CAFOs that discharge or propose to discharge need NPDES permit coverage

- EPA clarified **propose to discharge**
  - CAFO is designed, constructed, operated, or maintained such that a discharge will occur
  - Determination should be based on an objective assessment of the CAFO

National Pork Producer's Council v. EPA

5th Circuit, March 15, 2011

- Vacated duty to apply for CAFOs that propose to discharge
- Vacated provisions regarding liability for failure to apply
- Upheld provisions allowing permit authorities to regulate CAFO land application and include requirements in permits
- Dismissed challenges to guidance on poultry operations



Characteristics of an Objective Assessment

- Site-specific evaluation based on factual information of the actual design, construction, operation, and maintenance of the CAFO

- Consideration of:
  - Source of possible pollutants (e.g. animal confinement areas, feed storage areas, waste storage areas, confinement house ventilation fan exhaust, land application areas)
  - Aspects outside the CAFO's control (i.e. climate, topography, hydrological factors)
  - Pathways for pollutants to reach a water of the US
  - Discharge history
  - Location of the CAFO (proximity to waters of the US, upslope from water of the US)

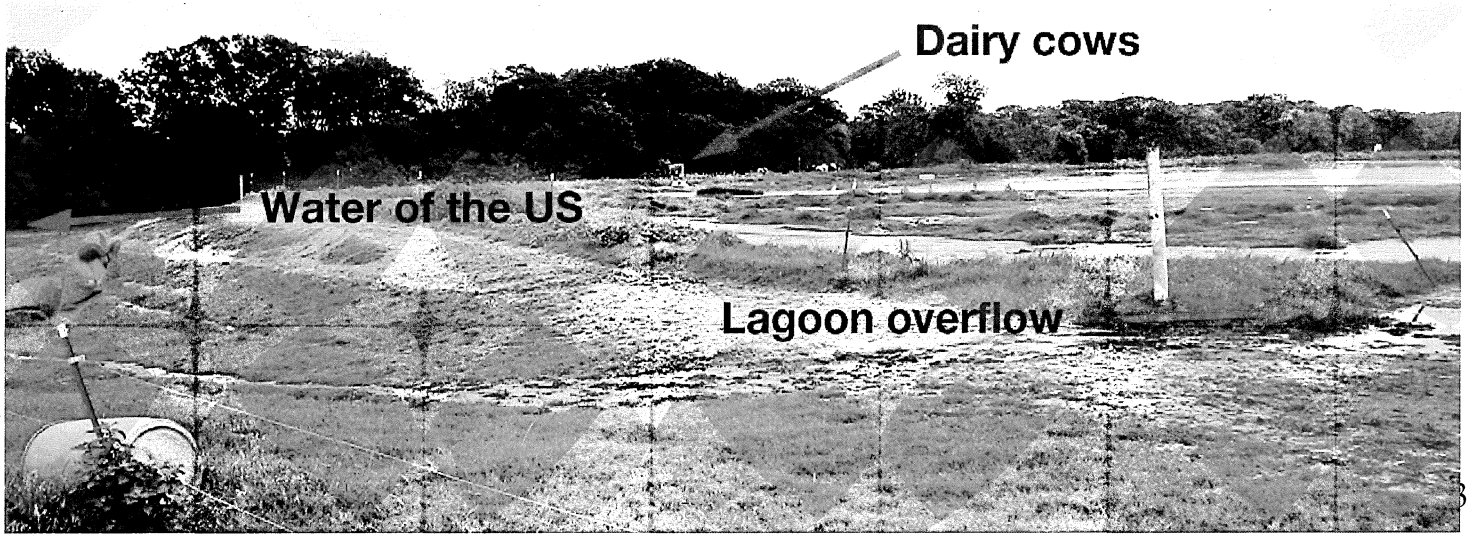
EXAMPLES OF RELEVANT FACTORS

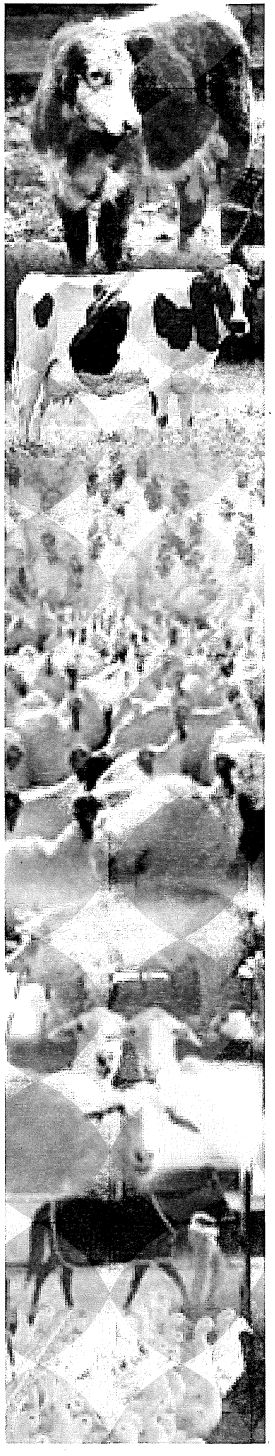
Animal Confinement Areas

- Existence and conditions of structural controls to divert clean water
- Inspection and maintenance schedules for clean water diversion controls, such as berms, gutters and channels
- Design and maintenance of pipes, valves, ditches, drains, etc., associated with the collection of manure prevent spills and leakage
- Secondary containment, if applicable, is designed, operated and maintained to handle all pollutant loads
- Animals are prevented from having direct contact with waters of the U.S.

Waste Storage and Handling

- Amount of waste anticipated to be generated during the minimum critical storage period
- Maintaining capacity for freeboard and direct precipitation
- Proximity of stockpiles to a water of the US



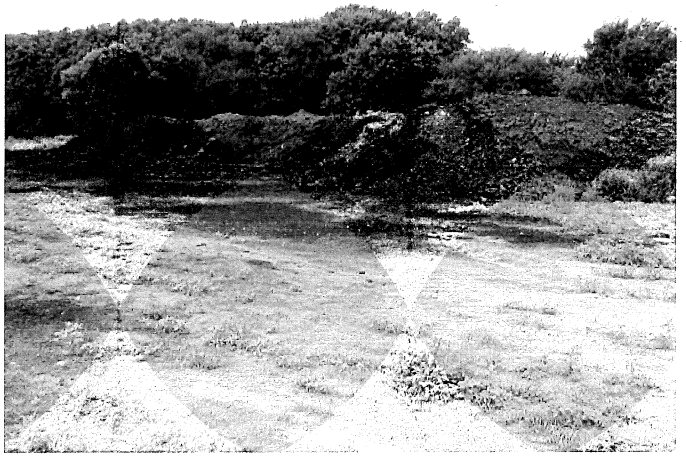


Land Application
[Steve: edit, add slides as approp.]

- Protocols for land application
- Dry weather discharges
- Recordkeeping requirements
- Relationship between adequate storage and land application

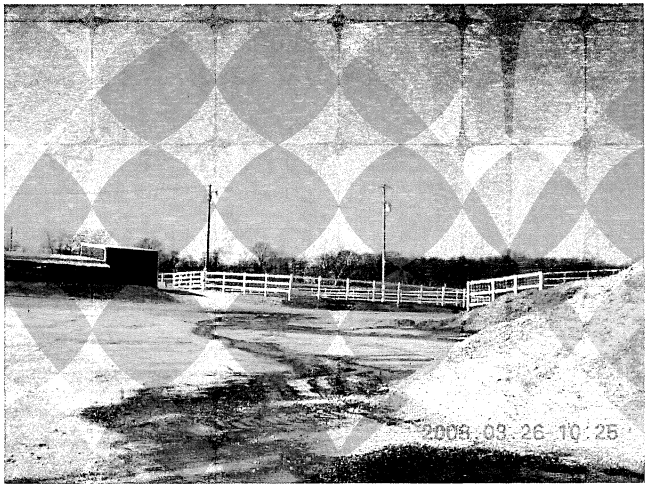
Beef Cattle Sector

- Capacity of manure and wastewater storage including location of stockpiles
- Management of manure composting areas
- Cattle access to surface water



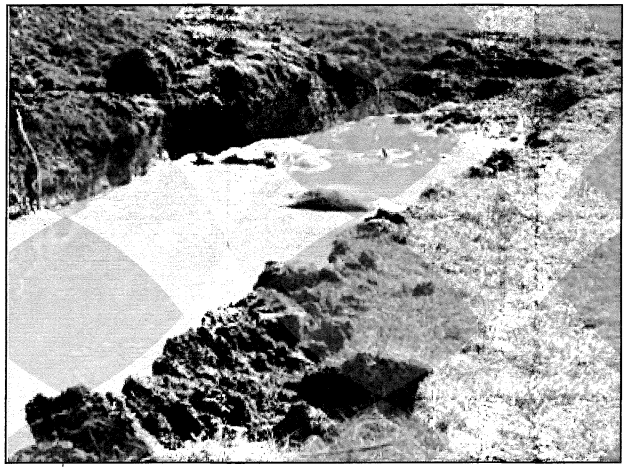
Dairy Sector

- Confinement of animals
- Evaluation of how waste streams are directed from barns, including the milking parlor
- Feed/silage leachate and runoff controls



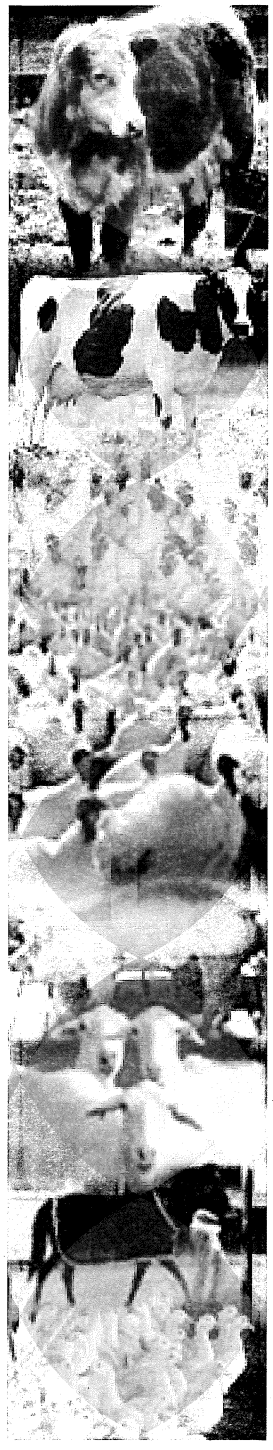
Swine Sector

- Management of wastewater and manure slurry from the pit
  - Pump-out schedules
  - Maintenance of hoses
- Capacity and maintenance of waste containment structures



Poultry Sector

- Storage capacity to accommodate litter removed from houses between flocks and during whole house clean-outs
- Management of stockpiles and storage sheds
- Ventilated confinement houses should consider way water is drained from the site



For More Information

- Implementation Guidance on CAFO Regulations – CAFOs That Discharge or Are Proposing to Discharge

- http://www.epa.gov/npdes/pubs/cafo_implementation_guidance.pdf